

selecting an appropriate communication device from a plurality of communication devices, in accordance with the received at least one carrier, to establish a communication channel, wherein the transmitted at least one carrier comprises transmitting the at least one carrier in accordance with neighboring receiving systems, the high speed communication standard capabilities identifying different xDSL standards.

Please amend claim 10, as follows:

10 (Amended). The method of claim 9, further comprising re-configuring the transmitted at least one carrier to minimize interference with the neighboring receiving systems.

REMARKS

Re-examination and allowance of the above-captioned application is respectfully requested.

Applicant respectfully traverses the Examiner's 35 U.S.C. §102(e) rejection of the pending claims as being anticipated by U.S. Patent 6,044,107 to GATHERER et al., (hereinafter "GATHERER").

Various type xDSL communication standard capabilities (such as, but not limited to, for example, ADSL, VDSL, HDSL, etc.) exist. Unfortunately, one communication standard (such as, but not limited to, for example, an ADSL device) is generally incapable of communicating with another communication standard capability (such as, for example, a VDSL device). The present invention addresses this problem by employing a device that includes a plurality of initiating communication devices that support a plurality of

communication standards, and performing a negotiation operation to identify a commonly supported communication standard.

Based on the comments provided by the Examiner in the final Office Action, Applicant is concerned that the Examiner may not fully appreciate the instant invention. In rejecting the claims, when citing GATHERER column 17, lines 24-29 the Examiner appears to infer that all communication standards are based upon multiple carriers. Applicant submits that this inference is erroneous. For example, from the list of cited examples, V.34 and cable modems are each implemented using a single carrier.

Further, the Examiner appears to be under the impression that the instant invention is directed to carrying digital information over multiple carriers, in which each of the multiple carriers represent different types of communication standards. This is incorrect. Applicant submits that the device of the instant invention transmits a single signal (using one or more carriers) including negotiation information bits, and that the negotiation information bits contain information about the types and capabilities of multiple communication standards (e.g., ADSL, VDSL, HDSL, etc.) that can be initiated after using the present invention.

As discussed at, inter alia, pages 33 through 35 of Applicant's specification, when a communication link is to be established, a negotiation data transmitter (associated with, for example, a first device) transmits one or more carriers to another device (such as, for example, a responding communication device). The carrier(s) include(s) first negotiation information bits that represent the various high speed (e.g., xDSL) communication standard

capabilities (e.g., ADSL, VDSL, HDSL, etc.) supported by the plurality of initiating communication devices. The responding communication device responds by transmitting (to a negotiation data receiver of the, for example, first device) one or more carriers that include second negotiation information bits representing its high speed communication capability. A selector associated with the first device then selects an appropriate communication device (from among the plurality of initiating communication devices) that is compatible with the responding communication device to establish a communication link.

For example, the first negotiation information bits transmitted by the first device may indicate that the first device supports the ADSL, VDSL and HDSL communication standards. The second negotiation information bits transmitted by the responding communication device may indicate that it only supports the VDSL communication standard. As a result, the first device concludes that a communication link can only be established using the VDSL communication standard, and selects a VDSL initiating communication device to establish the communication link with the responding communication device.

Applicant submits that at least the above is not disclosed (and not even suggested) by GATHERER. Specifically, Applicant submits that GATHERER does not disclose or suggest carriers that include first negotiation information bits (e.g., digital information) representing different high speed communication device capabilities, as taught by Applicant's invention. Column 18, line 63 through column 19 line 3 of GATHERER discloses that the MDSL information is provided by multiple tones which do not have digital information. Further, column 19, lines 23 through 26 of GATHERER discloses that after the channel probe period,

the MDSL modem at the subscriber-end indicates (informs) its line code capability/preference by sending signature tones for a predefined time duration. The signature tones correspond to the tone based activation method of T1.413 ADSL, and are not equivalent to Applicant's at least one carrier including negotiation information bits representing different high speed communication standard capabilities.

The signature tones of GATHERER are combinations of a specific set of multiple unmodulated carrier tones that are transmitted simultaneously. If one of the signature tones in GATHERER is missing (or if an additional tone is added or detected), the signature is different, and consequently, the meaning to the receiver is different. On the other hand, Applicant's carrier including negotiation information bits is a carrier that is modulated to contain a digital bit sequence of data. Applicant's optional use of plural carriers allows that there may be more than one negotiation information carrier for reasons, such as, but not limited to, for example, robustness or redundancy.

By the present amendment, Applicant clarifies the claims to indicate that the first carrier and the second carrier include negotiation information bits representing different high speed (e.g., xDSL) communication standard capabilities. Applicant also amends dependent claims 5 and 10 to conform to the revisions made to their respective independent claims. Applicant submits that the present invention, as defined by the claims, is allowable over the applied art of record as at least this feature is not disclosed (or even suggested) by GATHERER. Accordingly, the Examiner is respectfully requested to withdraw the 35

U.S.C. §102 rejection, to indicate the allowability of the present invention, and to pass the application to issue.

Further, in rejecting independent claims 4 and 9, the Examiner alleges that column 8, lines 12 through 28 and column 19, lines 38 through 45 of GATHERER discloses the "neighboring receiving system" specified in Applicant's claims 4 and 9. Applicant submits that the Examiner's assertion is erroneous. Applicant submits that column 8 of GATHERER describes multiple spectrum subsets of a single telephone line. On the other hand, the "neighboring receiving systems" of Applicant's invention refer to telephone wires adjacent to the wire of the present system that might be subjected to crosstalk interference (see, for example, pages 46 and 47 of Applicant's specification). Similarly, column 19 of GATHERER only refers to the conditions on a single line, and not neighboring lines. Accordingly, Applicant submits that an additional ground exists for concluding the allowability of independent claims 4 and 9.

Applicant submits that entry of the present amendment is proper, as it places the application in condition for allowance, or, alternatively, places the application in better condition for appeal. Furthermore, the present amendment does not require a further search, and does not increase the number of claims for consideration by the Examiner. Accordingly, entry of the present amendment is respectfully requested.

SUMMARY AND CONCLUSION

In view of the fact that the applied art of record fails to disclose (or even suggest) the invention as defined by the pending claims, and in further view of the above amendments and

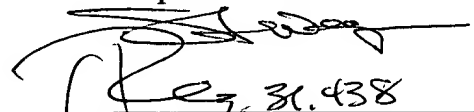
remarks, reconsideration of the Examiner's action and allowance of the present application is respectfully requested and is believed to be appropriate.

Any amendments to the claims which have been made in this amendment, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Should the Commissioner determine that an extension of time is required in order to render this response timely and/or complete and/or to place the application in condition for allowance, a formal request for an extension of time, under 37 C.F.R. § 1.136(a), is herewith made in an amount equal to the time period required to render this response timely and/or complete. The Commissioner is authorized to charge any required extension of time fee under 37 C.F.R. § 1.17 to Deposit Account No. 19-0089.

If there should be any questions concerning this application, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,
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APPENDIX A - MARKED-UP CLAIMS

2 (Three Times Amended). An apparatus for establishing a communication link, comprising:

a negotiation data [transmitting section] transmitter, associated with a plurality of initiating communication devices, that transmits [carriers that include] at least one carrier including first [digital] negotiation information bits representing different high speed communication [device] standard capabilities to a responding communication device;

a negotiation data [receiving section] receiver, associated with the plurality of initiating communication devices, that receives [carriers that include] at least one carrier including second [digital] negotiation information bits representing different high speed communication [device] standard capabilities of said responding communication device, in response to said transmitted [carriers,] at least one carrier; and

a [selecting device] selector that selects an appropriate communication device from the plurality of initiating communication devices, in accordance with said responding communication device, to establish a communication channel, wherein said transmitted [carriers contain] at least one carrier contains data related to a useable carrier allocation, said high speed communication standard capabilities identifying different xDSL standards.

4 (Three Times Amended). An apparatus for establishing a communication link, comprising:

a negotiation data [transmitting section] transmitter, associated with a plurality of initiating communication devices, that transmits [carriers that include] at least one carrier including first [digital] negotiation information bits representing different high speed communication [device] standard capabilities to a responding communication device;

a negotiation data [receiving section] receiver, associated with the plurality of initiating communication devices, that receives [carriers that include] at least one carrier including second [digital] negotiation information bits representing different high speed communication [device] standard capabilities of said responding communication device, in response to said transmitted [carriers,] at least one carrier; and

a [selecting device] selector that selects an appropriate communication device from the plurality of initiating communication devices, in accordance with said responding communication device, to establish a communication channel, wherein said negotiation data [transmitting section] transmitter transmits said [carriers] at least one carrier in accordance with neighboring receiving systems, said high speed communication standard capabilities identifying different xDSL standards.

5 (Amended). The apparatus of claim 4, wherein transmission characteristics of said transmitted [carriers are] at least one carrier is re-configurable during a transmission operation in order to minimize interference with the neighboring receiving [station] systems.

9 (Three Times Amended). A method for establishing a communication link, comprising:

transmitting [predetermined carriers] at least one carrier that [include] includes first [digital] negotiation information bits representing different high speed communication [device] standard capabilities to a responding communication device;

receiving [predetermined carriers] at least one carrier that [include] includes second [digital] negotiation information bits representing different high speed communication [device] standard capabilities of the responding communication device, in response to the [predetermined] transmitted [carriers,] at least one carrier; and

selecting an appropriate communication device from a plurality of communication devices, in accordance with the received [predetermined carriers] at least one carrier, to establish a communication channel, wherein the [transmitting of predetermined carriers] transmitted at least one carrier comprises transmitting the [carriers] at least one carrier in accordance with neighboring receiving systems, the high speed communication standard capabilities identifying different xDSL standards.

10 (Amended). The method of claim 9, [wherein the transmitting of transmission characteristics of the carriers comprises] further comprising re-configuring the [carriers during a transmission operation in order] transmitted at least one carrier to minimize interference with the neighboring receiving [stations] systems.